UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,500	08/10/2001	Satoshi Masuda	566.40490X00	2812

			EXAMINER
20457	7590	05/27/2004	AFSHAR, KAMRAN

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2681	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/925,500	MASUDA ET AL.
	Examiner	Art Unit
	Kamran Afshar, 703-305-7373	2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 8/10/01

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for

the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the
> United States before the invention thereof by the applicant for patent, or on an international application
> by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
> title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA)

and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when

the reference is a U.S. patent resulting directly or indirectly from an international application filed before

November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e)

prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2.   Claims 1-2, 5-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kondo (U.S. Patent

6,650,868 B1).

With Respect to claim 1, Kondo discloses a method of controlling hand over in a mobile

communication system (See e.g. Title), in which a received level of a perch channel signal received at a

mobile station for deciding a range of a cell (or sector) is compared with a reference value, to judge timing

of starting or ending hand over (See Abstract, Co. 3, Lines 55-67), comprising the steps of: correcting

reference value (See e.g. 0.01, 0.99 values, Co. 10, Lines 42-58) using a correction value prepared in

advance (See e.g. accumulated past reception timing difference and accumulated reception timing

difference) , such that hand over is started when the mobile station arrives at a range in which mobile

station can communicate (See e.g. 101, 103, 105 301 303 of Fig. 2 & Co. 9, Lines 21-46) with a base

station that covers a destination cell or destination sector (See e.g. Co. 4, Lines 42-58) , and the hand

over is ended when mobile station comes out of a range in which mobile station can communicate with a

base station that covers a source cell (or source sector) of the hand over; and judging, timing of starting

or ending hand over, using reference value corrected (See e.g. Flowchart of Fig. 3, Co. 10, Line 61 –

Co. 11, Line 26, Co. 20, Lines 3-13 & for more Figs. 5-14).

With Respect to claim 2, Kondo discloses a method of controlling hand over in a mobile

communication system (See e.g. Title), in which a received level of a perch channel signal received at a

mobile station for deciding a range of a cell (or sector) is compared with a reference value, to judge timing

of starting or ending hand over (See Abstract, Co. 3, Lines 55-67, Flowchart of Fig. 12), comprising the

steps of: preparing a correction value in (See e.g. 0.01, 0.99 values, Co. 10, Lines 42-58) advance for

each combination of a source cell or source sector and a destination cell or destination sector (See e.g.

101, 103, 105 301 303 of Fig. 2 & Co. 9, Lines 21-46) of hand over; recognizing a combination of a

source cell (or source sector) and a destination cell (or destination sector) as objects of hand over to be

started or ended (See e.g. Co. 4, Lines 42-58); correcting reference value using a correction value

prepared in advance for combination recognized ; and judging timing of starting or ending of hand over

using reference value corrected (See e.g. Flowchart of Fig. 3, Co. 10, Line 61 – Co. 11, Line 26, Co. 20,

Lines 3-13 & for more Figs. 5-14).

With Respect to claims 5-6, Kondo discloses a method of controlling hand over in a mobile

communication system (See e.g. Title, Co. 4, Lines 32-59), in which a received level of a perch channel

(See e.g. Flowchart of Fig. 12) signal received at a mobile station for deciding a range (See e.g. of a cell

(or sector) is compared with a reference value (See Abstract, Co. 3, Lines 55-67, Flowchart of Fig. 12), to

judge timing of starting or ending hand over, comprising the steps of: accumulating at least one result

(success or failure) of judging timing (See e.g. S19, S21, S23, S25, S 27, S29, S31 of Fig. 3) using

reference value (See e.g. 0.01, 0.99 values, Co. 10, Lines 42-58) for each combination of a source cell

(or source sector) and a destination cell (or destination sector) of hand over (See 801, 805, 809, 707 of

Fig. 4) ; correcting reference value (See e.g. Co. 15, Lines 30-35) depending on accumulated result; and

setting corrected reference value as a new reference value that is used in judging timing of starting or

ending hand over with respect to combination again (See e.g. Co. 10, Line 42 – Co. 11, Line 26) /

adjusting a transmitting level of a perch channel of a base station covering a source cell (or source

sector) or a destination cell (or destination sector) of a combination concerned, depending on the accumulated result (See e.g. Co. 18, Line 57 – Co. 19, Line 20, Co. 20, Lines 3-13 & for more Figs. 5-14).

With Respect to claim 7, Kondo discloses a base station controller (See e.g. 101, 107 of Fig. 1) that judges timing of starting or ending hand over by comparing a received level of a perch channel signal with a reference value, with perch channel signal being received at a mobile station and used for deciding a range of a cell (or sector) (see e.g. Co. 3, Lines 55-67), comprising: an inherent storage unit (See e.g. 107 of Fig 1, i.e. control memory programs provided in the base station controller 107, memory and / or storage may be used ROM (read only memory) or IC (integrated circuit) that stores a correction value for each combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over (See e.g. 101, 103, 303 of Fig. 2); an acquiring unit (See e.g. 117 of Fig. 2) for acquiring information from a mobile station, information indicating a combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over to be *started* or ended with respect to mobile station (see e.g. Co 6, Line 50 – Co. 7, Line 19); a correcting unit (See e.g. 801, 805, 807, 809 of Fig. 4, Co. 10, Lines 42-58) that corrects reference value (See e.g. Co. 15, Lines 30-35) using a correction value that is stored in storage unit correspondingly to the combination of *the source* cell (or source sector) and the destination cell (or sector), with combination being recognized from the information acquired by acquiring unit; and a timing judgement unit that uses the reference value corrected by correcting unit (See e.g. Co. 10, Line 42 – Co. 11, Line 26), to judge timing of starting or ending the hand over to be started or ended with respect to mobile station (See e.g. Flowchart of Fig. 3, Co. 10, Line 61 – Co. 11, Line 26, Co. 20, Lines 3-13 & for more Figs. 5-14).

With Respect to claims 8-9, Kondo discloses a base station controller (See e.g. 101, 107 of Fig. 1) that judges timing of starting or ending hand over by comparing a received level of a perch channel signal with a reference value, with perch channel signal being received at a mobile station and used for deciding a range of a cell (or sector) (see e.g. Co. 3, Lines 55-67), comprising: an acquiring unit (See e.g. 117 of Fig. 2) for acquiring information from a mobile station, information indicating a combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over to be started or ended with respect to mobile station (See e.g. 101, 103, 303 of Fig. 2); a timing judgement unit that uses

(See e.g. Co. 10, Line 42 – Co. 11, Line 26) reference value to judge timing of starting or ending the hand

over with respect to mobile station (See e.g. Flowchart of Fig. 3, Co. 10, Line 61 – Co. 11, Line 26, Co.

20, Lines 3-13; and a correcting unit (See e.g. 801, 805, 807, 809 of Fig. 4, Co. 10, Lines 42-58) that

accumulates at least one result (success or failure) of trying starting or ending the hand over according to

the timing judged (See e.g. S19, S21, S23, S25, S 27, S29, S31 of Fig. 3), by timing judgement unit for

the combination of the source cell (or source sector) and the destination cell (or destination sector)

indicated by the information acquired by acquiring unit, corrects reference value depending on

accumulated result(See e.g. Flowchart of Fig. 3, Co. 10, Line 61 – Co. 11, Line 26, Co. 20, Lines 3-13,

and sets corrected reference value as a new reference value that is used by timing judgement unit for

judging timing of starting or ending the hand over with respect to combination again (See e.g. Co. 10,

Line 42 – Co. 11, Line 26 & for more Figs. 5-14) / adjust a transmitting level of a perch channel signal of a

base station that covers the source cell (or source sector) or the destination cell (or destination sector) of

combination, depending on accumulated result (See e.g. Co. 18, Line 57 – Co. 19, Line 20, Co. 20,

Lines 3-13, Flowcharts 3, 12 & Figs. 5-14).

With Respect to claim 10, Kondo discloses a mobile terminal (See e.g. 105 of Fig. 1, 405 of Fig.

7, 505& 507 of Fig. 8) that judges timing of starting or ending hand over by comparing a received level of

a perch channel signal with a reference value, with perch channel signal being used for deciding a range

of a cell (or sector) (See flowchart of Fig. 12), comprising: a storage unit (See e.g. 177 of Fig. 1) that

stores a correction value for each combination of a source cell (or source sector) and a destination cell

(or destination sector) of hand over (See e.g. 101, 103, 105 of Fig. 1-2 Fig. 2); a recognizing unit (See

e.g. 139 of Fig. 1) that recognizes a source cell (or source sector) and a destination cell (or destination

sector) of hand over to be started or ended, based on received levels of perch channel signals (See e.g.

Co. 8, Lines 50-65); a correcting unit (See e.g. 801, 805, 807, 809 of Fig. 4, Co. 10, Lines 42-58) that

corrects reference value using a correction value that is stored in storage unit correspondingly to a

combination of the source cell (or source sector) and the destination cell (or destination sector)

recognized by recognizing unit; and a timing judgement unit (See e.g. 141 of Fig. 1, Co. 7, Line 66 – Co.

8, Line 12) that uses the reference value corrected by correcting unit, to judge timing of starting or ending

hand over to be started or ended (See e.g. Flowchart of Fig. 3, Co. 10, Line 61 – Co. 11, Line 26, Co. 20, Lines 3-13 & Figs. 5-12).

Regarding claim 11, Kondo discloses a notifying unit (See e.g. 149 of Fig. 1, Co. 8, Lines 13-31) that notifies a result (success or failure) of (See e.g. S19, S21, S23, S25, S 27, S29, S31 of Fig. 3) trying starting or ending the hand over according to the timing judged by timing judgement unit, to a base station with which mobile terminal is communicating (See Flow chart of Figs. 3, 12).

3.   Claims 7 rejected under 35 U.S.C. 102(e) as being anticipated by Norimatsu (U.S. Patent 6,334,821 B1).

With respect to claim 7, Norimatsu discloses a base station controller (See e.g. 1 of Fig. 1) that judges timing of starting or ending hand over by comparing a received level of a perch channel signal with a reference value, with perch channel (See e.g. Co. 1, Lines 59-67) signal being received at a mobile station (See 4 of Fig. 1) and used for deciding a range of a cell (or sector) (See e.g. Abstract), comprising: a storage unit that stores a (See e.g. Co. 5, Lines 9-25) correction value for each combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over (See e.g. 2-3 of Fig. 1) ; an acquiring unit for acquiring information from a mobile station (See e.g. Co. 5, Lines 9-25), information indicating a combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over to be *started* or ended with respect to mobile station (see e.g. Co. 5, Lines 27-44); a correcting unit that corrects reference value using a correction value that is stored in storage unit correspondingly to the combination of *the source* cell (or source sector) and the destination cell (or sector), with combination being recognized from the information acquired by acquiring unit (See e.g. Co. 5, Lines 45-64); and a timing judgement unit that uses the reference value corrected by correcting unit, to judge timing of starting or ending the hand over to be started or ended with respect to mobile station (See e.g. Co. 5, Line 57 – Co. 6, Line 21, Steps of Figs. 2-5).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo (U.S. Patent 6,650,868 B1) in view of Zhou (U.S. Patent 6,539,009 B1).

Regarding claim 3, Kondo disclosed everything as discussed above in claim 2, However, did not explicitly teach with respect to each combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over, correction value is decided depending on a difference between a received level of a perch channel signal of source cell (or source sector) at a point where received level of the perch channel signal of the source cell (or source sector) becomes equal to a received level of a perch channel of destination cell (or destination sector) and a received level of the perch channel signal of source cell (or source sector) or destination cell (or destination sector) at a point where a received level of a traffic channel signal at source cell (or source sector) and a received level of a traffic channel signal at destination cell (or destination sector) become equal. In the same field of endeavor, Zhou teaches with respect to each combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over (See e.g. Co. 7, Lines 17-36, Flowchart of Fig. 9), correction value is decided depending on a difference between a received level of a perch channel signal of source cell (or source sector) at a point where received level of the perch channel signal of the source cell (or source sector) becomes equal to a received level of a perch channel of destination cell (or destination sector) and a received level of the perch channel signal of source cell (or source sector) or destination cell (or destination sector) at a point where a received level of a traffic channel signal at source cell (or source sector) and a received level of a traffic channel signal at destination cell (or destination sector) become equal (See e.g. Co. 9, Lines 7-35). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Zhou to Kondo to facilitate the identification and evaluation of a plurality of base stations for an initial and peripheral cell search, changing of the transmission speed by variable spreading ratio and a multi-code communication for high speed

communication when a mobile station moves over a plurality of cells, base stations should be changed by soft-handover one after another as suggested by Zhou (See e.g. Co. 1, Lines 35-41).

6.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo (U.S. Patent 6,650,868 B1) in view of Ishikawa (U.S. Patent 6,697,622 B1).

Regarding claim 4, Kondo disclosed everything as discussed above in claim 2, However, did not explicitly teach with respect to each combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over, correction value is decided depending on a difference between a transmitting level of a perch channel signal of a base station covering source cell (or source sector) and a transmitting level of a perch channel signal of a base station covering destination cell (or destination sector), and a difference between a receiving antenna gain of the base station covering source cell (or source sector) and a receiving antenna gain of the base station covering destination cell (or destination sector). In the same field of endeavor, Ishikawa teaches with respect to each combination of a source cell (or source sector) and a destination cell (or destination sector) of hand over (See e.g. Co. 11, Lines 9-44), correction value is decided depending on a difference between a transmitting level of a perch channel signal of a base station covering source cell (or source sector) and a transmitting level of a perch channel signal of a base station covering destination cell (or destination sector), and a difference between a receiving antenna gain of the base station covering source cell (or source sector) and a receiving antenna gain of the base station covering destination cell (or destination sector) (See e.g. Co. 3, Lines 35-58). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Ishikawa to Kondo to save the power consumption with maintaining the accuracy of selecting the best base station in the mobile communication system as suggested by Ishikawa (See e.g. Co. 5, Lines 15-16).

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Yano (U.S. Patent 6,711,149 B1), Discloses Handover method in CDMA mobile communication base station and mobile station.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (703) 305-7373. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, Gary, Erika A. can be reached @ (703) 308-0123. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306 for all communications.

Kamran Afshar

ERIKA GARY
PATENT EXAMINER